CLAIMS

1. Tube having in its radial direction, from the inside to the outside, a so-called inner layer based on a fluororesin (or fluoropolymer) and intended to come into contact with a flowing fluid, characterized in that the inner layer is formed from a blend comprising a semicrystalline thermoplastic fluororesin and an ABC triblock copolymer, the three blocks A, B and C being linked together in this order, each block being either a homopolymer or a copolymer obtained from two or more monomers, the A block being linked to the B block and the B block to the C block by means of a covalent bond or of an intermediate molecule linked to one of these blocks via a covalent bond and to the other block via another covalent bond, and in that:

- the A block is compatible with the fluororesin,
- the B block is incompatible with the fluororesin and is incompatible with the A block, and
- the C block is incompatible with the fluororesin, the A block and the B block.

2. Tube according to Claim 1, characterized in that it is a bilayer and comprises an outer layer made of polyamide or of a polyamide/polyolefin blend having a polyamide matrix, the inner layer and the polyamide or polyamide-matrix layer being fastened together.

3. Tube according to Claim 1, characterized in that it is a bilayer and comprises an outer layer made of polyamide or of a polyamide/polyolefin blend having a polyamide matrix, the inner layer and the polyamide or polyamide-matrix layer being fastened together by the addition of a functional acrylic compound to the blend of the inner layer.

4. Tube according to Claim 1, characterized in that it is a trilayer and comprises an outer layer made of polyamide or of a polyamide/polyolefin blend having a polyamide matrix, the inner layer and the polyamide or polyamide-matrix layer being fastened together by an adhesion binder placed between them.

5. Tube according to Claim 1, characterized in that it is a multilayer and comprises a layer made of polyamide or of a polyamide/polyolefin blend having a polyamide matrix, the inner layer and the polyamide or polyamide-matrix layer being fastened together by a succession of intermediate layers, each of which is fastened to its adjacent layers.

6. Tube according to ~~one of~~ Claims 1 ~~to 5~~, characterized in that the ABC triblock copolymer contains, as by-products of its synthesis, a BC diblock copolymer and possibly C homopolymer.

7. Tube according to ~~one of~~ Claims 1 ~~to 6~~, characterized in that the ABC triblock copolymer contains, as by-products of its synthesis, an AB diblock copolymer and possibly some A homopolymer.

8. Tube according to ~~one of~~ Claims 1 ~~to 7~~, characterized in that the blend of the inner layer contains a dispersed electrically conductive carbon black filler in an amount sufficient to give this inner layer a surface resistivity of less than or equal to 10^9 Ω/□ and preferably less than or equal to 10^6 Ω/□.

9. Tube according to ~~one of~~ Claims 1 ~~to 8~~, characterized in that the blend of the semicrystalline thermoplastic fluororesin and the ABC triblock copolymer, possibly with the by-products of its synthesis, contains at least 50% and preferably from 70 to 97% by weight of semicrystalline thermoplastic fluororesin(s) and the balance (to 100%) by weight of the triblock copolymer of number-average molecular mass (M_n) greater than or equal to 20,000 $g.mol^{-1}$ and preferably between 50,000 and 200,000 $g.mol^{-1}$, possibly with its by-products, consisting of:

- 20 to 93 and preferably 30 to 70 parts by weight of A sequences,
- 5 to 68 and preferably 10 to 40 parts by weight of B sequences,
- 2 to 65 and preferably 5 to 40 parts by weight of C sequences,

the percentages being calculated with respect to the total weight of fluororesin(s) with the block copolymer and possibly its by-products, without taking into account in these percentages the optional presence of other additives.

10. Tube according to ~~one of~~ Claims 1 ~~to 9~~, characterized in that the fluororesin is chosen from:

- homopolymers and copolymers of vinylidene fluoride (VF2) preferably containing at least 50% by weight of VF2 and at least one other fluoromonomer, such as chlorotrifluoroethylene (CTFE), hexafluoropropylene (HFP), trifluoroethylene (VF3) and tetrafluoroethylene (TFE);
- homopolymers and copolymers of trifluoroethylene (VF3);
- copolymers, and especially terpolymers, combining the residues of chlorotrifluoroethylene (CTFE), tetrafluoroethylene (TFE) or hexafluoropropylene (HFP) units and/or ethylene and possibly VF2 and/or VF3 units.

11. Tube according to Claim 10, characterized in that the fluororesin is poly(vinylidene fluoride) (PVDF).

12. Tube according to ~~one of~~ Claims 1 ~~to 11~~, characterized in that the B block has a glass transition temperature $T_{g(B)}$, measured by differential thermal analysis, ranging from –100°C to –50°C.

13. Tube according to ~~one of~~ Claims 1 ~~to 12~~, characterized in that the B block is chosen from polydienes, especially polybutadiene, polyisoprene and their random copolymers, or else from polydienes, especially polybutadiene,

polyisoprene and their random copolymers, that are partially or completely hydrogenated.

14. Tube according to ~~one of~~ Claims 1 ~~to 13~~, characterized in that the C block has a glass transition temperature $T_{g(C)}$ or a melting point $T_{m(C)}$ greater than the $T_{g(B)}$ of the B block.

15. Tube according to ~~one of~~ Claims 1 ~~to 14~~, characterized in that the A block is chosen from homopolymers and copolymers of alkyl (alkyl)acrylates, for example methyl methacrylate (MMA) and/or methyl or ethyl acrylate and/or those deriving from vinyl acetate.

16. Tube according to ~~one of~~ Claims 1 ~~to 15~~, characterized in that the A block is poly(methyl methacrylate) (PMMA).

17. Tube according to Claim 16, characterized in that the PMMA is syndiotactic and its glass transition temperature $T_{g(A)}$, measured by differential thermal analysis, is from + 120°C to + 140°C.

18. Tube according to ~~one of~~ Claims 1 ~~to 17~~, characterized in that the ABC triblock is poly(methyl methacrylate-*b*-butadiene-*b*-styrene).

19. Quadrilayer tube according to ~~one of~~ Claims 1 ~~to 18~~, characterized by the following structure:

PA/binder/fluoropolymer/fluoropolymer + ABC triblock + electrically conductive carbon black.

20. Quadrilayer tube according to ~~one of~~ Claims 1 ~~to 18~~, characterized by the following structure:

PA/binder/fluoropolymer + ABC triblock/fluoropolymer + ABC triblock + electrically conductive carbon black.